5-12-2021

Yellow Fever: Supplement to The Commercial Appeal, Memphis, 1978

THE COMMERCIAL APPEAL

Memphis, Tennessee, Tuesday, October 31, 1978

YELLOW FEVER

All over the Mid-South, grim-faced men, armed and ready to shoot, turned back refugees from Memphis when the 'sociable' mosquito, *aedes aegypti,* aided by ignorance, indifference and greed, scourged the city a century ago. The city's quarter-century journey to disaster is traced in this special section.

Memphis Ignored Repeated Warnings Of Peril

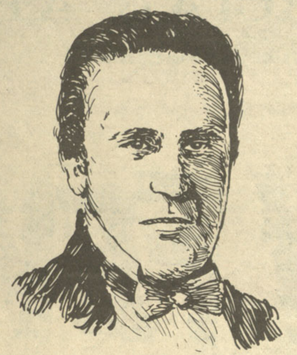
By MIMI WHITE

It's been said Memphis died during the yellow fever epidemic of 1878, a victim of her own stupidity as much as the raging disease that swept through the Mississippi Valley that autumn leaving nearly 16,000 dead, 6,000 of them here.

It's been said, too, that Memphis was a city of glorious martyrs both homegrown and imported who walked unflinchingly into the jaws of death, nursing the sick until they, too, succumbed to the disease.

Both oft-repeated statements are the truth, but only a small part of it. But using them to capsule the yellow fever experience, succeeding generations have missed the Gothic enormity of a tale in which there were more marauders than martyrs and in which Memphis' stupidity, while colossal, was hardly unique.

Thousands of second- and third-generation Memphians remember yellow fever stories told them by relatives who lived through those terrifying days.



Unheeded

The pleas of Dr. A.P. Merrill, an early Memphis medical leader, for sewers and other sanitary measures, were ignored by a city council that was suspect, to say the least.

One seeking out these stories is struck by their similarity — the same images were burned into the city's collective memory not to be blurred by the passing years. The dead carts, the empty streets, the stench of filth and disinfectants, the hundreds of children orphaned, many of them shipped to far-off cities to be adopted and never again seen by their Memphis kin; the doctors and volunteer nurses dressed in black moving fitfully from house to house, often with their clothes befouled by the dread black vomit of their dying patients; empty houses of the prosperous pillaged in their absence, the tent cities thrown up as a refuge for those too poor to leave Memphis otherwise.

Even come-lately Memphians have heard of the epidemic, its heroes and heroines, its mournful roll of "honored dead" and its sadder one of countless broken hearts. It's been 100 years, yet questions linger with the memories, and the full dimensions of those tragic days remain a mystery and an uneasy burden on the city's conscience.

Could the epidemic have been avoided or minimized? Why did Memphis seem more permanently crushed than other cities, some of which were struck even harder by the fever?

And finally, how did other cities see us then, cities which more recently have called Memphis a "backwater town" or perhaps, after last summer's police strike, agreed with the Atlanta Journal that Memphis is still around "because no one has the decency to declare it dead."

The answers lie behind the drama of suffering and heroism played out on the Indian summer dustiness of Memphis streets and immortalized in the chiseled granite of the city's cemeteries. The answers molder instead in crumbling newspapers and medical journals, in the handwritten minutes of long-forgotten city councils and in the litany of reports, advice and warnings of Memphis health officers. This was no one's story and everyone's — and far away the saddest of all.

Yellow fever is a vicious killer. Even today there is no cure and the battle against it has been won solely by preventive measures.

Many cases of yellow fever are so mild as to escape diagnosis, or in the old days to be recorded as "bilious fever" or "dengue." Of the serious cases nearly half end fatally, the initial onset of fever being followed by a few days' remission before the terrifying phase in which the patient becomes jaundiced, often wildly delirious and vomits great quantities of blackened blood which has seeped into his stomach by internal hemorrhaging. Within 48 hours most are dead. Those who survive enjoy lifelong immunity, and amazingly, no permanent aftereffects.

The yellow fever virus is transmitted by the bite of a female aedes aegypti mosquito which has acquired it by biting someone who has the disease. Some significant time periods are involved. After being bitten by an infected mosquito it is 3 to 6 days before the victim becomes ill. During the first 4 to 5 days of illness any mosquito that bites him becomes infected and, after an incubation period of 8 to 12 days can pass the disease on to as many humans as it can bite.

The mosquito remains infected until it dies, some 2 to 4 months later. The aedes aegypti is known as a domestic mosquito, breeding only around or in human habitations and usually in artifical containers of water. The breeding cycle, which requires a 68-102 temperature range, takes 7 to 10 days, and the flight range of the adult is only about 100 feet, well explaining the pattern of the Memphis epidemics which spread from house to house "or about 40 feet a day," according to one medical writer of the period.

Yellow fever had been known in the United States since before the Revolution, but the major epidemics of the mid-19th Century were usually imported from the West Indies by way of New Orleans. Mosquitoes carried in the bilge water of ships and by human passenger set up the cycle and when the ships reached port the disease spread by means of the resident aedes aegypti population.

The pattern was predictable — from New Orleans the fever came up the Mississippi and moved along the major north-south railroad lines. Memphis was struck in 1853, 1854, 1855, 1867, 1873, 1878 and 1879. Each time the first cases were near the river in the Happy Hollow district, an incredibly overpopulated, steamy, rat-ridden Irish settlement at the foot of the bluff between Poplar and Market streets where destitute families lived with sanitation methods borrowed from medieval slums, sharing tiny, tumbled-down shanties on stilts with goats, dogs, chickens and rats.

It was 1900 before Maj. Walter Reed, president of the U.S. Army Yellow Fever Commission working in Cuba, isolated the mosquito as the vector of the disease. There followed a worldwide program aimed at species eradication, the use of strict quarantines, spraying insecticides in vessels and later in airplanes and finally the development of a vaccine. The fight still goes on, less dramatically because the highly perfected control measures have become routine.

But at the Shelby County Health Department's mosquito and insect control center, specialist James Hamm reports that there are still aedes aegypti in Memphis, though not enough to spread the disease — should it ever be introduced — in epidemic proportions.

Ironically, Memphis did not have to wait for Reed's discovery, for by 1900 the city had been free of the fever for 20 years. What medical and public health authorities of the 1870s believed about the causes of the disease was so close to the truth that at times it seems only the word "mosquito" is missing from their descriptions.

There is no doubt that the quarantines and sanitation measures they repeatedly, often desperately urged, would have minimized or even prevented the epidemics. The proof came in 1880, too late for thousands of Memphis dead. That year local authorities aided by the National Board of Health finally undertook a massive program of sanitation, sewering, paving and garbage disposal which long before Reed's discovery, had made Memphis the nation's model city in the realm of public health.

Why did it take six epidemics to make public health important to Memphis? Much of the answer lies in the character of the city government — inept, inattentive, often lacking honesty, vision or direction — and in that of the business community that too often sought to lift its skirts above the political mire. From its creation, by contrast the Memphis board of health was regularly composed of men ranging from proficient to renown in their field. In their brave struggle against official neglect and public indifference they often laid down their lives caring for the very ones who had refused to listen to their counsel.

In the 1830s began an almost uninterrupted alliance of the Memphis press and the best of the local medical profession to seek an end to conditions which had already made Memphis known up and down the river as an unhealthy place.

"Are the corporation or the citizens of Memphis waiting for . . . some malignant fever to come upon us with its desolation ere they think of cleansing the streets and alleys of their pestilential matter?" demanded F. S. Latham, one of the city's most colorful editors, in 1836. Two years later, Latham was still asking the question, challenging the authorities to "examine the condition of our streets and alleys."

A few weeks later the city council did create a board of health, named seven local doctors to it and gave them power "to report to the town constable all causes of disease that require removal" and to report on "the general health and the names, disease and residence of those who died." The board's functions were only advisory, however, and it was given no budget. There is no record of its doing anything after the first few months, and in 1850 another board of health was created. Two of its members, Dr. Lewis Shanks and Dr. A. P. Merrill (who was also chairman of the school board), were Memphis' most vigorous early pioneers in the public health field. Merrill was nearly a generation ahead of his time in the South by recognizing the need for sewers, but his efforts were met with polite indifference.

In a scathing address to the Memphis Medical Society in 1853 Merrill strongly disputed the city fathers' worn-out excuse that the already high mortality rate in Memphis was caused by the number of transients put off steamboats to die here. "Memphis is alarmingly sickly, and the sickness is alarmingly fatal," he said.

He laid the blame on "the great error of neglecting to provide a system of sanitary regulations" but warned sardonically: "Don't look to the board of health! It has neither authority nor influence . . . all its recommendations are unheeded and its opinions on sanitary measures and police are not more sought than those of the constables or watchmen."

The elected officials who protested that the city was too poor for sanitation created the health board "for no other purpose than to share with them the responsibility for this great and unnecessary mortality," Merrill charged. He feared for the future and noted that Memphis' growth was not commensurate with its increase in business because "people are deterred from residing among us in the summer for fear of disease and death."

The Memphis Daily Appeal that spring wanted the alley in front of its Front Row office cleaned of its "disgusting filth." If the city council "exists for any purpose other than to eat dinners and look grave and grow obese," said the newspaper, "it seems that abating such a crazy nuisance would be one."

Memphis had outbreaks of yellow fever that year and the two following, resulting in more than 1,000 deaths. Both Shanks and Merrill wrote comprehensive articles on the subject and both reached conclusions as to the cause of yellow fever that were completely accurate as far as they went.

They were advanced in scorning the popular "miasma" theory — that yellow fever is caused by inhaling unhealthful atmosphere arising from marshes and decaying filth — and realized instead that the cause was something more specific, something, as Merrill wrote, "independent of the influences arising from a defective sanitary police . . . (and) accumulations of filth . . . (but rather) certain obscure and occult conditions the nature and character of which have not been ascertained by the researches of science . . . are probably necessary in all cases."

Shanks was even closer to the truth: "The essential cause . . . whether transmitted from place to place, or of domestic origin . . . may result from the germ of infection, or may result from the reproductive force of a peculiar compound." Both doctors also realized that yellow fever is not contagious because, as Shanks observed, sick passengers were frequently taken off passing steamboats and "removed to hotels and boarding houses in Memphis, yet not a single case of yellow fever was thus contracted by any resident."

On the other hand, they knew that the fever often did spread in a definite pattern, striking those in close proximity to a patient. Both doctors concluded that the disease somehow had dual causes, although they were at a loss to explain how this could be. What they had observed, no doubt, were the different effects caused by resident mosquitoes and those already infected and brought here by steamboat.

Most of the cases in these early outbreaks were caused by New Orleans mosquitoes that bit passengers on the trip up river and then bit those who ventured onto the boats while they lay at the Memphis wharf. Cases would be reported among the riverfront people 3 to 5 days after a boat's arrival here, not long enough for the cycle to have been completed from a passenger to a Memphis mosquito and thence to a Memphis patient.

On one occasion upholstered furniture (apparently harboring an infected New Orleans mosquito) was taken from a steamboat to a cabinet shop in Memphis where several workers fell ill 3 days later. On the other hand in the South Memphis district there were a few cases which did break out 12 days after sick patients had been there, indicating a newly infected Memphis mosquito as the culprit.

Dr. S. R. Bruesch, professor of neuro-anatomy at University of Tennessee Center for Health Sciences, and an authority on early Memphis epidemics, theorizes that the aedes aegypti population in Memphis was just beginning to grow at this point and could not yet support an epidemic as widespread as those of the 1870s. He cites the great growth of the human population in Memphis between 1850 and 1870 and notes that that of the aedes aegypti would naturally keep pace with it since the insect "is very social and man-loving."

Finally, Merrill and Shanks were among the growing number of Southern doctors who realized that water was somehow involved in the spread of yellow fever and both urged better drainage even before general cleanliness.

Merrill deplored the street grading which was carried on "with reckless enthusiasm, preventing natural drainage and resulting in artificial ponds in the streets," as he wrote in the Memphis Medical Recorder of 1855. Shanks noted in a subsequent issue that the "better drained portions of the city remained free of the fever." Although they did not fully support the total quarantine, both doctors and all their colleagues on the Memphis board of health agreed that "intercourse with infected districts" should be banned immediately when yellow fever was reported down the river.

They also urged sanitation measures, again and again. "Like other recommendations of the board these fell lifeless at the feet of those in authority and their publication forbidden," Merrill told his fellow doctors at an 1855 meeting of the Memphis Medical Association. "It does not appear probable that any efficient measures for sanitary improvement will be adopted until their necessity is made manifest by the devastating ravages of some fatal epidemic," Merrill predicted. "Nothing less than this, with the loss of life and great expense, is likely to arouse the people to a due sense of its importance."

During the Civil War Gen. Ben Butler's federal occupation forces in New Orleans subjected that city to stringent sanitation rules and strict quarantines against vessels from the West Indies. Yellow fever almost disappeared in the city and none was conveyed up the river, convincing many medical authorities that the disease did not arise spontaneously on this continent and that it could be kept out by quarantines in port cities.

The respite did not last, however, for with the withdrawal of federal occupiers from New Orleans the quarantines were bungled, sanitation was largely forgotten and yellow jack was back. Perhaps there has been too little focus on the role of New Orleans health authorities in the whole yellow fever tragedy.

Fearing loss of the tremendous commerce on which the city depended, officials routinely lied about the presence of yellow fever in New Orleans, altering death statistics, sending out false bulletins, even denying the existence of growing epidemics that correspondents of northern newspapers were seeing with their own eyes.

One correspondent for the New York Times wrote in September, 1853 that he had seen "the New Orleans charity hospital full of patients writhing in the black vomit" weeks before officials admitted that "a few cases" of yellow fever had been reported. By then it was too late for towns up the river to initiate quarantines. The steamboats had left with their tiny, unseen cargoes of infected mosquitos. Each year as the mosquito and human populations of the valley grew the epidemics became worse while the sanitation and public health reporting of New Orleans grew no better.

When the carnage of 1878 finally forced the federal authorities to take over interstate health matters, New Orleans like Memphis was assisted in developing a sanitation and quarantine battle plan against yellow fever. Victory over yellow jack came quickly for the whole valley.

Whether New Orleans, by acting more responsibly could have prevented epidemics of the mid-19th Century is not clear. Surely Memphis cannot blame anyone but herself for what happened here in the 1860s and 1870s, long after it was well known that despite official pronouncements from New Orleans, yellow fever was present there in varying degrees of virulence nearly every year.

Memphis authorities knew by then that quarantines against places south of here would produce signficant results. They also knew that sanitation was essential to lower the death rate from disease generally. Yet the city wallowed on in municipal corruption and apathy, its privy vaults reeking, the stench of 40,000 people's garbage, of dead rats and animal waste rising from its muddy wooden streets.

Water stood everywhere, in horse troughs, in cisterns, knee deep in cellars, in the fire boxes homeowners kept in their yards, in rain-filled street holes. The 10-day breeding cycle of the aedes aegypti mosquito came and went again and again, summer after summer. Even in an age of low public expectations in matters of municipal charm, Memphis was repulsive. "Cologne, that European city of a thousand disgusting smells, backs down before Memphis," wrote a visitor from North Carolina in 1867.

"Memphis," said the Louisville Journal of Aug. 23, 1866, not many months after the federal occupation forces had left, "is a young Chicago in energy and enterprise — just released from the fetters of military power." Memphis was bustling all right. Her commerce was rapidly recovering and the streets resounded with the hammering of building progress. Never mind that street walkers "were a positive nuisance," as the Daily Argus put it in 1866, or that the city's reputation as murder capital of the world was already established.

Thieves and pickpockets who floated up and down the river plying their trades loved Memphis because it was always full of visiting country bumpkins who made easy marks. None of this probably hurt the city's prosperity a bit in a country lurching through the postwar debauchery of the Grant administration. The financial and political instability of this "young Chicago" was another matter though. Levelheadedness was required if mushrooming Memphis was to escape yellow fever after the Civil War, to say nothing of cholera, malaria and typhoid fever which regularly carried away hundreds. Levelheadness and money. Neither was available.

Some 16,000 of Memphis' 35,000 citizens in 1866 were Negroes, most of whom had left the cotton fields to enjoy the sweets of emancipation. The city was theirs at the ballot box where they entrusted city government to carpetbaggers who often betrayed both races and lined their own pockets.

The fate of the city was in the hands of such men as Mayor John Park, who appeared at a city council meeting on August 15, 1866, roaring drunk and called the councilmen "a bunch of damned thieves," which most of them were. After sober reflection he repeated the charge the next day. The incident delighted the nation's press. Said the Cincinnati Commercial: "Other mayors do have intervals of sobriety. When municipal emergencies come they manage to appear in their right minds. But the mayor of Memphis has no such happy intervals. We can almost forgive him, though, because of the pungent truths he sometimes utters."

Even so by the next council meeting Mayor Park had drafted an apology "for what I said under the influence of excitement." The council accepted and then moved to adjourn without taking up any business. Park, who in sober moments was actually concerned about sanitation, prevailed on them to sit down again while he presented a report from Health Officer W. C. Cavanaugh urging that all privies, back houses and cellars be ordered cleaned, whitewashed and disinfected. The report was tabled without discussion.

Next a motion was made for 500 barrels of lime and what one reporter called "a numbskull discussion" ensued about the more modern disinfectants, carbolic acid and copperas, being used in the North. At length Alderman Grace arose and said he would listen to no more humbug about Yankee disinfectants or Yankee anything. The motion to buy lime passed.

Within the next three weeks council meetings were informed of a human corpse allowed to be eaten by rats in full view of an entire neighborhood; of a pile of "offal" so large that it blocked off Second between Madison and Monroe; of the desperate need for more scavenger carts; of the arrest of the city scavenger for wife-beating, and of two dead babies found in cisterns.

In the same three weeks the council demonstrated its responsiveness to the city's needs by defeating a motion to consider a public waterworks, refusing to reimburse the sanitary committee for expenses and tabling a motion to employ more slop cars. "Our municipal authorities have shown the same disregard in sanitary measures as in everything else," commented the Daily Argus. As ever, Memphis health authorities struggled bravely against insurmountable obstacles. "Memphis," sighed health officer Cavanaugh, "is as clean as a city can be without waterworks, sewers or paving."

Actually, the city was at the mercy of fate, or more specifically, of New Orleans. The epidemic of 1867 that took more than 250 lives in Memphis was practically welcomed with open arms by the city fathers who rejected the pleas of the health board that a quarantine be established on Presidents Island and then failed to act or any of the board's sanitation proposals. After the epidemic, they approved Mayor W. O. Lofland's suggestion that the entire sanitary force of the city be discharged "in the interest of economy" and that all the slop carts be sold.

Such "economy" was worthy of the very city fathers who shepherded Memphis straight into a financial abyss in which it would ultimately lose its corporate existence. Mere indifferences to public health might have been remedied, had these city leaders left Memphis anything to remedy it with.

The road to municipal ruin was paved, ironically, with cypress, ancient symbol of grief and death. The Nicholson pavement — blocks of cypress laid on a shallow gravel bed and mortised with pitch — was hailed as the remedy for Memphis' mud-filled streets, so often impassable that by 1867 the fire department made regular runs to the corner of Main and Poplar to pull cotton drays out of the abysses.

But the Nicholson pavement was expensive and controversial at best, insanely inept at worst. It took two years and cost nearly a million dollars to build 10½ miles of it on downtown streets and it warped, rotted and stank before it was half finished. Touted by promoters as "the wood eternal" its porous surface absorbed tons of mule and horse waste along with slops and garbage from the local hotels and businesses along its route.

It stank politically, too, as there were thinly disguised deals whereby money regularly passed from the contractors to certain councilmen.

The role of the Nicholson pavement in the yellow fever epidemics of the 1870s can hardly be exaggerated. But the pavement itself — or rather the gaping rain-filled holes where the cypress blocks should have been — was probably not, as many writers have supposed, a major breeding place for the aedes aegypti mosquito.

Those "social" insects, according to Dr. Breusch, probably had plenty of breeding places close to human habitations, and besides this particular mosquito, unlike others, favors clear, clean water like that found in cisterns over the kind that festered in Memphis streets and bayous. But the Nicholson fiasco played a more devastating part in Memphis' destruction than merely providing mosquito habitats, for it led to the city's bankruptcy, her humiliation before the nation's financial centers and rendered her leader too broke and dispirited to do those things which, when finally done in 1880, quickly controlled the mosquito: *Build a sewer system, a waterworks and thoroughly clean and disinfect everywhere.*

Ever since Dr. Merrill's time sewers had been increasingly advocated around the country. By the late 1860s it was well recognized that cities with indoor toilets and sewer lines had lower death rates than those that continued to use the old privy system where human waste was collected in great holes in the ground which often seeped into nearby wells, or the slop jar method whereby those receptacles were dumped into the nearest body of water — in Memphis case the Bayou Gayoso.

New York had cut her death rate drastically with a sewer system, as had Philadelphia and other eastern cities. After Memphis' 1867 bout with yellow fever and cholera, Mayor Lofland wrote to the city council: "A system of sewers is paramount to every other consideration of the public welfare. Our present calamity might have been avoided with sanitary measures. Enough has been lost to the business of the city since July to pay for a complete system of sewers."

Lofland, like his predecessor, pushed for a public waterworks too and did succeed in getting the city council to pay for a survey by Charles Harmany, nationally recognized authority in the field.

Louisville, Nashville and most eastern cities already had running water and the accompanying drop in mortality rates. But the Nicholson debt was already beginning to smother the economic life out of Memphis and with it any prospect of the public works which could have saved thousands of lives.

"Memphis Greatest Debate," a painstaking history of the city's water question by William Sorrels, former managing editor of The Commercial Appeal, details how a private waterworks company was chartered and began service to 436 customers in March, 1873, its mains filled with brackish water drawn from Wolf River. This was not the great municipal system envisioned by Harmany and it did little toward leading Memphis out of her medieval dependence on rain-filled cisterns, waters cars from the river or, for the lucky few, springs and wells.

There was a full-scale tax revolt in Memphis in the years between the Civil War and the yellow fever of 1878 over the surtax placed on downtown businesses to help pay for the Nicholson pave-

The Writer

Mimi White, who calls herself a "closet journalist," has been a Memphis newspaperwoman and is now a member of the Tennessee Historical Commission. She has been taking notes on the yellow fever epidemics for the 12 years she has compiled News of Bygone Days for The Commercial Appeal.

Mimi White

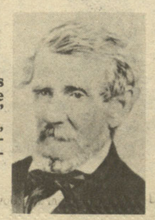
The actual writing and preparation of the detailed article took her 10 months.

She is a fourth-generation Memphian — and both her parents were journalists. She is the granddaughter of the late Tennessee Gov. Malcolm Patterson.

The mother of five children, she is married to state Sen. James H. White. She is a recent graduate of law school and has just been admitted to practice in Tennessee.

In Vain

'Is Memphis waiting for some malignant fever?' asked F. S. Latham, editor of The Memphis Eagle, in urging a cleanup.

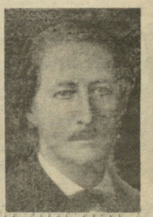


'New Orleans Routinely Lied About Presence Of Yellow Fever In City'

Health Department Headquarters During The '70s

Fed Up

An exasperated (and drunk) Mayor John Park called council 'a bunch of damned thieves.'



Tax Revolt Hurt City

ment. The businessmen's grudging acquiescence soon turned to outright defiance as the contract was modified again and again to increase the price and the pavement itself became more obviously a boondoggling fiasco.

Not only that, but citizens generally refused to pay their property taxes, which had climbed from $1.10 in 1866 to $4 per $100 by 1873. Small homeowners, grocers, saloon keepers and capitalists alike failed to pay, some of them because they couldn't, but more of them because they were fed up with the "bunch of damned thieves." (Mayor Park's successor, Lofland, had carried on the tradition by calling the councilmen "a pack of thieves and scoundrels.")

One taxpayer even filed suit against the city for breach of contract, alleging he had paid for municipal services which were "nonexistent." It was a pitiful downward spiral — the fewer taxes were paid, the poorer city government became, the less it could do to force compliance and the more determined people were not to comply as services dwindled.

By 1870 Memphis was selling municipal bonds at 45 cents on the dollar to fund current expenses. These were eagerly grabbed up in the money markets of New York, Boston and Philadelphia where Memphis mayors often appeared, hat in hand, trying to negotiate refunding and somehow save the city from collapse. The total municipal debt by 1873 had climbed to nearly $5 million.

Several lavish churches were being built in Memphis during those years and dozens of homes for the city's merchant princes (such as that of Amos Woodruff on Adams known today as the Fontaine Home). In 1871, more than $50,000 was raised in one day by private donation to help victims of the Chicago fire and each year some $60,000 was raised by merchants to stage the city's Mardi Gras celebration for which costumers and float designers were imported from Paris and Venice.

There was money in Memphis, but already the *idea had taken hold that as little of it as possible should be given to duly elected thieves and idiots.* In 1873, the Citizens' Protection Association was formed by conservative money interests to agitate for surrender of the city's charter as a means of repudiating the gargantuan debt and to form a united front for nonpayment of taxes.

This association got the Chamber of Commerce and the Cotton Exchange to join with them in this startling resolution: "The voting element and the ambitious fix upon us incompetent and ambitious officers . . . Our purpose is to remove our city government and the business interest of the city away from the popular elections of the times and from all partisan influence."

Things quickly went from bad to hopeless. Added to Memphis' peculiar troubles were a nationwide bank panic in 1873 and an accompanying depression which was to last several years. The mayor's salary was cut from $4,000 to $3,000, the police force was cut, teacher salaries lowered and the board of health was nonexistent.

In 1872 with a death rate of 46.6 per thousand, Memphis topped the list of all American cities with the highest mortality rates. Filthy New Orleans was fifth, New York fourth. Vicksburg and Savannah, the only other Southern cities in the top 11, were second and third.

The Memphis Appeal was by then under the editorship of J. M. Keating, who devoted his professional career and the pages of his newspaper to boosting Memphis in the eyes of the world, and more especially, in the eyes of Memphians.

One of the nation's ablest and most respected journalists, Keating's brilliant, gloves-off style attracted worldwide attention. "A few whacks by The Memphis Appeal would deprive the crowned heads of Europe of what few wits they have," the Geneva (Switzerland) Continent & Times told the readers in 1877. "(Keating's) invective is exceeded only by his inexhaustible fertility of epithets." Like a devoted but exasperated parent Keating alternated between telling Memphis she was destined for greatness and despairing of the city's ever being more than a large pig sty with a busy river trade. Railed the newspaper in March, 1872:

"The sanitary police would do everyone a great service by looking into the conditions of the private cisterns of Memphis and compelling a general cleanup. The water drawn from the cistern has a universal offensive odor and taste and is doubtless highly impure. Even though we have at present no properly organized board of health, the city government had better look into the matter, despite their apparent intention of avoiding any course of action which might make others think Memphis is civilized or progressive."

Cisterns and sanitation were the last things poor Mayor John Johnson had time to worry about in 1872. He had inherited one of the biggest municipal messes in the country and was honestly trying to straighten it out. More knowledgeable than his predecessors about finance, he started a sinking fund, developed a plan to collect back taxes and made long trip to New York and Boston to haggle with bond dealers.

But The Appeal stubbornly — and often alone — stuck to sanitation as the city government's No. 1 duty. When a smallpox epidemic swept the city in October, 1872 the editorial page lashed out at Johnson: "You have exhibited a lethargy and a negligence which are criminal, and the record of your administrations blunders has been aptly fitted with the black drapings of a hearse to bind its follies."

For the next 12 months all calamitous hell broke loose. The smallpox was followed by an outbreak of epizootic lymphangitis, a highly contagious disease that attacks horses and mules and which brought Memphis' commerce to a virtual standstill. This was followed in turn by one of history's worst freezes of the Mississippi River, completely halting river traffic. Food and coal supplies ran out and neighbors stole each other's fences to use for firewood. A number of the poor froze or starved to death. The spring thaw brought resumed trade — and cholera, which claimed more than 300 lives.

Finally in June the elected thieves and soundrels bestirred themselves. An energetic little red-haired Napoleon named William Rogers was taken off the police force and made "Sanitary Sargeant," while Judge John Flippin — "no respecter of persons or of anything," according to The Appeal — was appointed to hear cases against sanitation scofflaws.

Armed with a little black book on which he had written, *"Don't worry, I'll be* in your back yard tomorrow," Rogers stormed around the city ferreting out hundreds of filthy cisterns, privies and cellars, ordering cleanups and citing violators who were then marched through Flippin's courtroom, fined and given five days to abate their nuisances. Among those fined were the City of Memphis itself (to the tune of $600), and such leading business firms as Marx & Bensdorf ($150) and the Memphis & Louisville Railroad ($200).

If Flippin was unpopular, Rogers was despised. One irate housewife into whose privy vault he snooped, took after him with a "villainously foul scrub brush," The Appeal reported, causing him to "vault the fence like a skyrocket." Other homeowners merely fired their guns in his direction when he approached.

Rogers' zeal ran away with him when he discovered a nice young man in a fair damsel's chamber at midnight "indulging in moral improprieties to an alarming extent." He pronounced such activity "one of the greatest nuisances known to the law," and gave the couple 24 hours to get married. Most of the 750 nuisances he found had a good deal more to do with sanitation and The Appeal said admiringly that Rogers "is the only official earning his pay."

Among the more spectacular nuisances which went unabated were the "evil smelling cesspools" which had formed under the loose planks at Fourth and Jefferson, and the two large "frog ponds" on Madison between Orleans and Marshall. At the latter location, The Appeal reported, residents "have to use their mosquito bars doubled."

Everyone was down on Mayor Johnson, from the laborers who hanged him in effigy on the Fourth of July to The Appeal which impaled him on Keating's sarcastic pen:

"The mayor and his little ring of bond holders' representatives can't afford to expend even one cent of ready cash to save the lives of the people. There are certain coupons to be paid and the $35,000 on hand is a sacred trust to redeem them. Of what signficance is the condition of the streets and alleys? Who cares what detriment is done the city by the destructiveness of an epidemic?"

The truth was that the mayor and council were hopelessly entangled in the creditors' demands and that there really was no "ready cash to save the lives of people." There was no money to pay the schoolteachers or the police either and they often went for weeks without getting a dime.

The city's digust with its government was more than offset by a surprisingly vigorous optimism about its mercantile future. The Appeal, farsighted and progressive in many of its views often lapsed into the prevailing mind-set of Southern whites, that government meant politics, that politics meant corruption in the form of buying the massive and easily swayed black vote, and that the whole sorry business was to be circumvented as much as possible. "We want to be let alone to make money," wrote an angry Keating. "God knows we have had enough trouble the past 12 years. We need freedom from death, disease and politics in order to recover our prosperity."

Keating knew in calmer moments that there is no such freedom, but most of Memphis' whites who lacked his insight, did not. The worse the municipal mess became the more the businessmen washed their hands of it and sought with some success to isolate themselves in a closed society. They had private schools, a private streetcar company, private hospitals, private waterworks and several neighborhoods even had private sewer lines built.

Aside from fire and police protection, sanitation was the only major city service which they did not provide for themselves. Since the city obviously couldn't provide it either, Memphis reeked on through her municipal death agonies, The Appeal nipping at her heels, every pile of offal and every one of the "ten thousand rats" in the alley behind the Peabody Hotel an ugly monument to official ineptitude and citizen contempt.

The Appeal lapsed into what was a common yet reprehensible journalistic practice in regard to the yellow fever epidemic of 1873. Realizing that Memphis was practically on her last legs and that one more calamity might finish her, the newspaper tried desperately to make first the threat and then the reality of yellow fever go away by refusing to acknowledge them.

The pleas for sanitation turned, in August, to invective against Dr. J. W. Nuttall, city health officer, who reported to the city council that he had "official information from the Health Officer in New Orleans that yellow fever is present there" and urged that the city "exercise utmost vigiliance and precaution." The Appeal checked with the New Orleans Picayune which obligingly assured Memphis that "there was not a single case of yellow fever in New Orleans during the past week." "Don't start, dear reader," The Appeal urged in an editorial captioned "No Fever." "The yellow fever has visited Memphis just twice in her history and may never visit us again, very probably never will. We believe Dr. Nuttall to be zealous and faithful, but no one man should be allowed to stand in the way of the general interests."

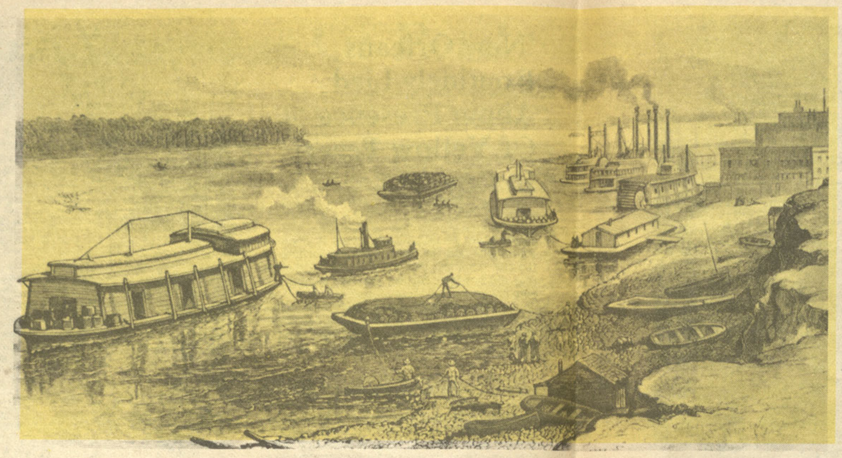
The next day aedes aegypti breeding places were enhanced by a torrential rain which "filled the cellars and cisterns and rose so high in some back yards that chickens drowned in their coops." The sluggish, refuse-clogged Bayou Gayoso suddenly became a raging torrent in which bystanders saw a plank borne along carrying "a dead rat, a crippled rooster and two cats."

It was not until Sept. 14, after 30 yellow fever deaths, that The Appeal acknowledged the presence of the dread visitor under the caption, "No Epidemic," and the next day assured readers that "the big scare" was exhausting itself. "Doctors advise the scary-weak-kneed people to fly," one item taunted, "but these doctors have patients who die of terror rather than disease."

"Owing to the cool nights," The Appeal said the next day, "fires are becoming popular and the mosquitoes are singing farewell."

They were, of course, and within 48 hours 50 citizens having heard that song had taken leave of the Earth. The Appeal was ready to face reality. Quarantines were established against Memphis at St. Louis, Louisville and Nashville and the Memphis Howard Association was reorganized. This volunteer group, named after an 18th-Century English public health reformer, had been founded in New Orleans in 1837 and was first organized in Memphis in 1855, serving bravely in previous epidemics. It divided the city into districts, began supplying free nurses and doctors to the indigent and established an infirmary that had once been the commandant's house at the old Navy Yard (and which had more recently been used by Memphis society women as a half-way house for prostitutes).

The conduct of most of Memphis' citizens in this time of peril was inspiring. Typical of the tenuous ties which bound the city government to the heart of Memphis, the city councilmen fled in such numbers that a quorum could not be gathered to transact business. A Citizens' Relief Committee of civic leaders was formed to run the city, a number of women and blacks being asked to serve on it. The Committee labored day and night coordinating the efforts of charitable relief societies, dispensing the supplies and money which poured into the city and making regulations which it enforced with the police and sheriff's deputies.



Boats Were In The Harbor, But People Stayed On During Quarantine

Overtrained

Judge John Flippin (right), who was later mayor, appointed William Rogers as 'sanitary sargeant,' but supersnoop Rogers' investigations went far beyond health standards.

Scornful

Daily Appeal Editor J.M. Keating said the city was 'little better than a pig sty.'

Fraternal groups, the Odd Fellows, Knights of Columbus, and Masons, while ministering mainly to their own, extended themselves without stint to strangers. To the Howards and the Catholic and Protestant nuns and priests, however, fell the task of caring for the city at large. For the nuns and priests they can only be given unreserved praise for the awesome sacrifices they made. Their motives were sublime as they went about their sad mission, often without food or sleep, their nostrils filled with the nauseating smells of the sickroom. It was not a glamorous martyrdom, but to these servants of God it was all the holier. Eleven nuns died, four Catholics and seven Episcopalians. One Catholic priest and four Protestant ministers likewise gave their lives for their flocks.

There were other heroes too, like the 50-man police department that stayed on duty to the man, burying 7 of its members, and the firemen who doubled as a sanitation crew hosing down the streets, spreading tar and lime everywhere. Most of the 70 Howard nurses, too, were selfless people from every social stratum (several were black and a number were white society women from Mobile).

But quite a few of these nurses were adventurers, opportunists (though called volunteers they were paid $4 to $10 a day) or thieves. There were a number of instances of nurses who deserted or robbed their helpless patients and even more who drank their whisky. One inattentive nurse killed his patient by giving him carbolic acid instead of his medicine. Another was so drunk and obstreperous that his patient, Dr. Happelt, asked him to take a note to Howard Association headquarters. Those in charge there read, scrawled in a fever-shaken hand: "Kill this man!"

Nor were the marauding nurses the only examples of man's inhumanity to man. Said The Appeal of Oct. 2: "A Negro man suffering from smallpox lay on the floor all day in front of the county courtroom. This is a disgrace and an outrage. It is up to the honorable squires to remove such nuisances to the pesthouse."

The "bunch of damned thieves" were looking to their laurels too. Acting Mayor Paul Cicalla, it was discovered, had signed for hundreds of dollars worth of food rations which he was to take to certain destitute families but which he kept instead. Apparently this was too much for his colleagues and after the epidemic he was expelled from the city council in disgrace.

As the epidemic reached its height The Appeal, now thoroughly alarmed, cursed the city's fate: "Had our board of health been allowed to carry out its resolutions we would have escaped this pestilence," raged Keating. As it was most citizens wanted desperately to flee as the death toll mounted.

Several thousand did, but something even more pressing than fear of yellow fever kept most of the business leaders here — a run on the local banks. On Sept. 20 the huge financial institution of Jay Cooke in New York collapsed sending economic shudders through the country. Rumors flew around Memphis and the next day a milling mob of 1,500 crowded Madison Avenue and withdrew a million dollars from the city's seven banks. At least three had to close their doors. In spite of the exodus from Memphis, the Chamber of Commerce meeting the next day was the largest in eight years. It was agreed that all the banks would suspend currency payments and that trains and steamboats would be asked to accept "exchange" instead of money for transporting refugees out of and cotton into the city.

Memphis was crushed by the epidemic of 1873, but not fatally. This was partly because the fever was late in arriving, having only six weeks before frost to do its vicious work. There were some 8,000 cases, 2,500 of them fatal.

But more significant, Memphis with all its reversals, its debt and mismanagement and bad luck still had a good deal of resiliency. Not only did all her banks but one weather the midepidemic run, but 16 merchants were found in a single day willing to pledge $600 each to keep the Howard Association operating.

The life of the city went on, even at the height of the fever. The circus came, much daily business went on as usual, the temple was filled for the celebration of the Jewish New Year and the cotton was picked and marketed on time. The tragedy of those weeks cannot be minimized — so touched was the world by accounts of Memphis' suffering that $332,288 was raised for the city in southern villages, in northern capitals and even $500 in England — yet it pales beside the greater tragedy of 1878. Not because twice as many lost their lives in the later epidemic, nor because the city was finally wrung out lifeless from the loss of her last resources, but because it did not have to be.

Everyone seemed to know what had to be done to minimize or prevent another yellow fever epidemic. Dr. John Williams wrote to The Appeal that Memphis' population "is poor and vicious and more squalid than elsewhere." He suggested that "we raise money and buy all the shanties in Happy Hollow, burn them, cover them with earth, saturate them with coal oil and then burn them again."

Even the city fathers came into focus long enough to re-establish the board of health and give it police power, though they couldn't bring themselves to provide adequate funding. The salaries of the three doctors were set at $1,800 a year, "a disgrace," The Appeal snapped. "The city has already paid millions of dollars and hundreds of lives for this penny-wise and pound foolish policy of our administration."

So keen was Keating's insight into the soul of Memphis that at times it seems almost a gift of prophecy. On Nov. 20, 1873 he wrote:

"We fear the apathy and feeling of false security which an abatement of the disease induces. Another epidemic and the blow which prostrated our trade will annihilate it. The immigration of thousands of our energetic young, talented citizens to more healthful climes, the removal of floating capital to cities less exposed to the civic demoralization incident to a panic-striken community, to say nothing of the uncounted victims doomed to death under the shadow of pestilence — these must at once present themselves to every thinking man as the inevitable result of another epidemic. Disease is no longer a specter walking the Earth as the avenging agent of an insulted Providence, clothed by superstition. Science, which is but a reflex of divine light, has removed the mask."

The next year when the yellow fever weather arrived it was obvious that Keating's fears had been realized. The board of health doctors were men of dedication and medical proficiency. But city government had already lapsed into its accustomed posture of neglect and niggardliness.

"We must not allow the willfulness, ignorance and stupidity of our officials to stand between us and this wonderful organization, the board of health," said The Appeal. "Of disinfectants and quarantines our city fathers know nothing and in the dogmatism that accompanies ignorance they would not learn. Will we pooter along till the scourge seizes our people?"

"Pooter" along the city did. By April, 1875 the health authorities were so disgusted with the city council that two of them, Health Officer Dr. Frank Rice and health board president Dr. B. W. Avent, resigned. A motion to reject the resignations failed after Councilman Hewitt sneered, "They're just sensitive. Why, they're as sensitive as the sensitive plant. Besides, many taxpayers have been complaining of the money that is wasted on this board of health."

Only the most concerted effort by The Appeal and the Evening Ledger succeeded in patching things up between the council and the board, and even then a few months later the council, in a fit of "economy" discharged the entire street cleaning force.

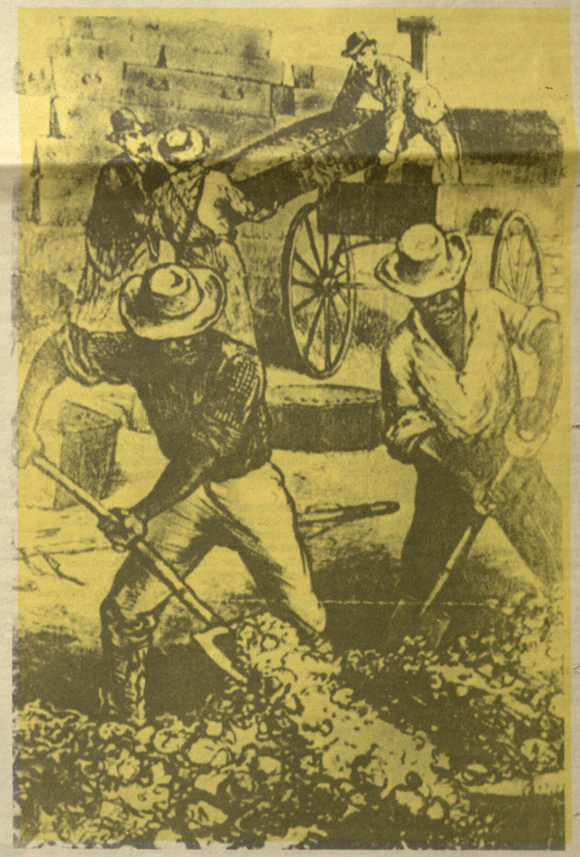
Villainess: Aedes Aegypti

Memphis was not having a good year. The private water company failed; the state took so much property for the nonpayment of taxes that the city's tax base dropped by a third, to a mere $20 million dollars worth of taxable real estate; teachers and police were being paid in scrip which local merchants were soon honoring at 50 cents on the dollar. Complaints were temporarily silenced by issuing more scrip.

The city's financial condition had become unsalvagable, short of a miracle. D. E. Brown, the Nicholson contractor, had a judgment for $488,000 against the city. A federal judge in Memphis in 1873 issued a mandamus ordering the city to levy a tax immediately to pay the judgment. The city fought the constitutionality of the mandamus all the way to the U.S. Supreme Court, buying a five-year respite.

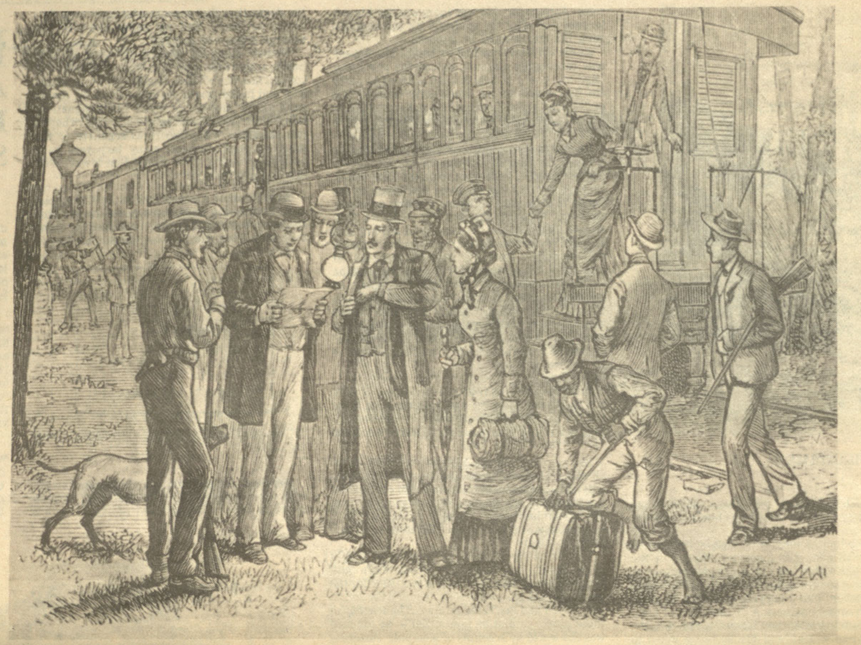
The final decision in Brown vs. City of Memphis was handed down in 1878. Quickly scores of other creditors with judgments swarmed into federal courts with mandamus petitions. Meetings of the city council were regularly interrupted by the U.S. marshal serving the mandamuses and at

'We Fear The Apathy And The Feeling Of False Security'



Death Cart Drivers, Gravediggers Worked Overtime

'Miraculously, City Escaped Fever For Four Summers — No Blessing For It Led To Complacency'



Credentials Of Rail Passengers To And From Memphis Were Closely Checked

length the councilmen took to meeting at night or in unannounced places to evade service.

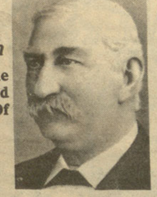
The conservative legal community and the business interests renewed their efforts to save the city by introducing a bill in the legislature to rescind the corporate charter. State Senator J. W. Clapp, City Atty. Walker and Judge C. W. Heiskell drafted the bill and presented it to the city council. John Flippin, who was then mayor, vigorously opposed the proposal and predicted chaos and ruin if it was accepted. It failed, by a narrow vote.

Miraculously, the city escaped yellow fever for four summers. This was probably not the blessing it appeared to be for it fostered a complacency in which the city's negligence in sanitary matters grew into a deliberate failure to act.

In the summer of 1874 Dr. D. T. Porter — who would later be first mayor of the Memphis taxing district when the charter was revoked in 1879 — asked the Chamber of Commerce to pass a resolution urging that the streets be cleaned. "Memphis is the worst city on the continent," he said flatly.

Three years later Dr. John Erskine, Memphis health officer and nationally known public health authority, warned the city council: "On your consciences must be the reeking pits of filth and unpaved gutters." But the health authorities *had become voices crying in the wilderness. The city treasury was nearly empty. Elected officials,* nervously looking over their shoulders for pro-

His Opinion



'Worst city on the continent,' said Dr. D.T. Porter Of Memphis

cess servers, were rarely in the mood to give the board of health so much as a polite hearing.

The city's business interests, on the other hand, had nearly recovered from the epidemic of 1873 and its leaders were too busy to concern themselves with backstopping a city administration most of them wished would fall into the bayou. A visitor from North Carolina in 1877 wrote home admiringly of the "princely edifices" of Memphis banks and insurance offices, its beautiful churches and the "go-ahead activity," of its people.

The city did itself proud during the Centennial year, exhibiting its cotton around the world and winning top premiums everywhere. (But at the Chicago Exposition the Memphis entry was a bed invented by M. J. Waldran completely covered by a canopy "which keeps out mosquitoes better than netting," according to dispatches).

There seemed to be no shortage of private capital, or private energy. Some $50,000 was raised in 1877 to establish a medical college here and every year the streets did get cleaned once — at Mardi Gras time when the business leaders deigned to pressure the city government into having the chain gangs make the city presentable.

In March, 1877, a New York journal observed that Memphis, while "mediocre," had the ingredients "of a great city." A few weeks later Memphis merchants began surveys "to ascertain what our men of capital are willing to do to make Memphis *a manufacturing center. We must make it known* to the business community of the country that capital invested here will pay," said the announcement.

But apparently the nation was not favorably impressed with a city whose prosperous commercial interest let government and the public welfare take the hindmost. As the fateful year 1878 dawned the Louisville Courier-Journal lamented: "Poor Memphis. She is head over heels in debt, her streets are worn out and her people groan under the heavy load of taxation."

The months passed, bringing each of 6,000 lives closer to the day of its needless sacrifice. Memphis' municipal schizophrenia grew almost surrealistic, for as spring wore on the grim tension created by the health board's warnings was regularly splintered by the shrill activities of society and commerce. More than $40,000 worth of Mardi Gras floats bumped along the Nicholson potholes for which there was "no money" to fix. Dr. R. W. Mitchell, health board president, implored the councilmen not to cut the sanitary force, but in vain.

That same week the Chamber of Commerce launched a massive public relations campaign to have Memphis made the starting point of a second great coast-to-coast railroad, and a lavish new saloon, the Silver Bell, "with the oldest and best wines in the world," opened at Main and Adams.

On June 3 the board of health met and analyzed dispatches from the West Indies where yellow fever was raging. Although there were no cases yet reported in New Orleans, Drs. Mitchell, Avent and Erskine were thoroughly alarmed. Their fear was shared by Dr. R. B. Maury of the Tennessee State Board of Health, who had written to Louisiana health authorities on May 8 asking if yellow fever had entered New Orleans and asking to be advised when it did. He received a curt reply denying the presence of the disease. After four years of respite from yellow fever, sanitation had been relaxed up and down the river and quarantines forgotten.

The Memphis health authorities saw the calamity coming. They adopted a strongly worded resolution urging that the city be put under strict quarantine from July 1 to Oct. 1. The city council was incredulous and contemptuous by turns, finally tabling the report without a dissenting vote.

In the meantime heedless private Memphis, in an expansive mood, financed the biggest fireworks display ever seen in the South for the Fourth of July, costing more than $10,000. Railroads lowered their rates to bring thousands here from the surrounding country.

The Appeal, unlike Memphis, had learned a lesson from the epidemic of 1873. The newspaper vigorously supported the health board's efforts to put the city under quarantine and cried out in frenzy:

"The opposition from some quarters to sanitary measures in Memphis is preposterous. Such stuborn sticking out against the plain dictates of common sense would be incredible except that history has told over and over again the story of human folly, the recklessness of cultivated stupidity and neglected ignorance. Who are these obstructionists who would strike hands with death and covenant with pestilence?"

At length one segment of the business community caught the scent of danger and spoke out in favor of the quarantine, petitioning the city council to appropriate $8,000 to clean the streets and $2,000 to carry out a quarantine. The majority, however, saw a quarantine as no more than a bothersome handicap to the summer trade. Determined to prevail, they enlisted the aid of 32 of the city's physicians who signed a statement saying that "there is absolutely no danger from yellow fever" and no need for a quarantine.

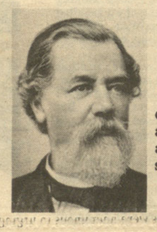
The city council, delighted to have medical authority on its side, now brought the health board's proposal to a vote and defeated it. The next day, July 9, Dr. Mitchell resigned, writing: "As the position I held as president of the board of health was unsalaried, I took it with only one motive — to improve the sanitary affairs of Memphis. Every year since 1870 the city has been exposed to yellow fever from New Orleans, and in 1873 we suffered a major epidemic. I have strongly urged a quarantine. The council, urged on by some of our leading physicians, has refused. I have no choice but to resign with the earnest belief that if we ever have yellow fever again it will be our own fault for not taking the known, necessary precautions against it."

Less than a week later Associated Press in New Orleans sent the fateful message out over the wire: "Yellow Fever here — virulent — 36 cases."

Memphis bolted into action. Already quarantines had been hastily thrown up at Port Gibson, Natchez and Vicksburg. The lethargy of the city council, the antagonism of business leaders, the indolence of housekeepers evaporated overnight. On July 20, the city council voted unanimously not to accept Mitchell's resignation and 48 hours later leading merchants and cotton firms had formed a "sanitary committee," raised $6,000 and turned it over to a committee composed of the health board doctors and Dr. Maury, who arrived from Nashville to oversee the work.

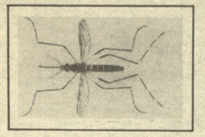
Trainloads of carbolic acid, copperas and lime rolled into the city, were unloaded by city police, firemen and Negro laborers who worked around the clock to clean the city. Were it not for the terrible devastation which lay just ahead the chemical warfare Memphis waged against an unseen enemy would furnish enough scenes for a comic opera. Gas street lights were turned on without being lit to let the escaping fumes purify the air. "Little Democrat," a popular saloon keeper's cannon, was fired regularly, some believing the smoke had a cleansing effect, others saying that the "percussion" killed germs.

Disinfectants were given free to homeowners and laggards were fined and had their nuisances abated for them by police armed with buckets of a 5 per cent solution of carbolic acid. Mule- and man-drawn carts lumbered over the city collecting carcasses and garbage, shoveling offal, emptying slops. Most of this was dumped into the Bayou Gayoso along with barrels of lime and carbolic acid. Streets and cellars were hosed down and sprinkled with chemicals. Congressman Casey Young overseeing the application of his favorite — brimstone and turpentine. Fire Chief McFad-



Futile

Dr. R.W. Mitchell, health officer, argued in vain against cutting sanitary services.



den meanwhile built "purifying" bonfires on major street corners.

Citizens took to wearing all manner of bizarre things on their persons to ward off germs despite the assurances of doctors that these "charms" were useless. Blending bits of botanical medical theories popular a generation earlier, the handed-down remedies of their ancestors and African voodoo, people began to appear on the streets with their shoes filled with garlic or mustard powder, masks over their faces, turpentine-soaked rags held up to their noses and bags of asafetida and other herbs tied around their necks.

The city had bought land on Presidents Island and erected three buildings on it for quarantine purposes during the brief post-epidemic reform period of 1873. No use had been made of the facility but now it was fitted up and staffed to house "suspected cases," and quarantined travelers. A rigid quarantine was declared from Aug. 1 until further notice and the board of health was given full police powers to enforce it. No one was to enter the city until they had been quarantined 10 days. Freight, baggage and mail had to be sprinkled with lime or fumigated before being unloaded.

Cannons were placed on the bluff to be fired if a boat attempted to run by the quarantine landing. Detectives were sent to the railroad depots at Milan, Grand Junction and Grenada to see that no one bought tickets to Memphis, and armed guards were stationed on the outskirts of the city, on the roads and along the railroad tracks to prevent trains from stopping to let off those whose plan it was to sneak into the city after dark.

It was too late. Had it already been too late 10 years earlier when municipal mismanagement and the Nicholson debt doomed Memphis to face the 1870s without sewer system or water works, or was it only too late because the urgent quarantine and sanitation programs of the board of health were not put into effect sooner than summer?

Most of the disinfectants which were being used probably killed any aedes aegypti adults or larvae they came in contact with, according to Specialist Hamm. The spreading of lime, carbolic acid and copperas in wet cellars, on the streets and in containers of standing water no doubt lowered the mosquito population.

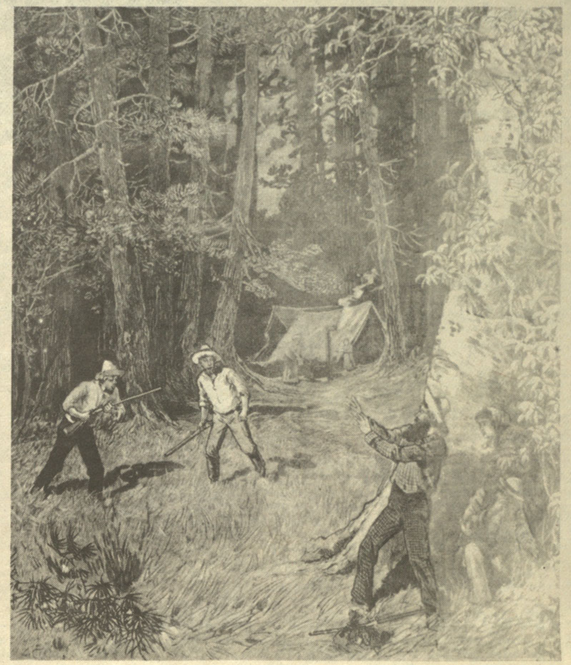
But these chemicals could not have been put in cisterns, wells or horse troughs — some of the prime breeding places — in sufficient strength to kill mosquitoes. Moreover, the sulphur smoke, burning tar and other fumes were probably not used in high enough concentration to be effective. No doubt the frantic pre-epidemic cleanup involved the incidental emptying or removal of many of the small water-filled breeding places, such as bottles, pails, upturned wheelbarrows, though Hamm notes that the constant hosing down of the gutterless streets might actually have created additional habitats.

The quarantines, however, if carried out strictly enough to keep infected mosquitoes as well as yellow fever patients out of Memphis would have "conceivably prevented or quite possibly minimized" the epidemic, according to Dr. Bruesch, especially if the resident mosquito population was being held down. It seems reasonable then for history to confirm Dr. Mitchell's indictment of the 32 physicians who let themselves be persuaded to oppose the board of health, of the business leaders mindful only of the season's profits and of the city council with its dogmatic ignorance.

On July 25 a Mrs. Fields in Grenada, Miss., received by freight a dress she had ordered from New Orleans. The package almost certainly harbored an infected aedes aegypti mosquito, for four days later she was dead of yellow fever.

Terror spread through the town and within 24 hours its streets were deserted as some 1,000 of its 1,300 residents scrambled for the safety of the countryside. The news tightened the vise of apprehension that held Memphis breathless and the quarantine committee became alarmed at reports that persons from New Orleans were riding the train as far as Grenada and then coming the last 80 miles to Memphis by wagon, entering the city through the suburban woods. Nearly every one — 367 souls — who stayed in Grenada died. E. A. Melton, its city marshal, wired the mayor of Atlanta: "Help us pay our nurses and bury our dead. The mayor is dying and I am the only officer left."

On Aug. 3 a deck hand named William Warner was put off of the steamboat Maumelle in Arkansas and made his way to Memphis by skiff. He sought out the quarantine committee's headquarters at Court Square and told workers there he thought he had yellow fever. The last ambulance wagon of the day had left for the quarantine hospital and the man was told to get there the best way he could. Too weak to move, he crawled under a nearby shed and was found there the next day wracked with the disease.



Unceasing Vigil Against Refugees Was Maintained

This, added to the death on Aug. 5, of Mrs. Kate Bionda, owner of a Front Row eating house, caused most Memphians to react as though a great army bent on annihilation was descending on the city. Businesses shut down in midday, men herded their families together and headed for the railroad depot, leaving all their worldly goods behind except what could be quickly crammed into valises. Dinner was left uneaten on the table, laundry on the line, horses and household pets abandoned or committed to the keeping of Negro servants who, bereft of their source of wages, were left to face the plague as best they could.

Wild scenes ensued in which Victorian amenities were forgotten as men shoved women and children aside to board trains so jammed that passengers rode hanging out the windows; some had their baggage thrown off to make room for still more people. When it seemed no more could possibly get on, latecomers would board anyway, drawing pistols if anyone challenged them.

The exodus was just as frenzied on the dirt roads leading out of the city where families escaped in carriages, wagons, goat carts, on mules or horses and many on foot.

Hundreds of the refuges went to New York, St. Louis, Louisville, Chattanooga, Nashville or Atlanta. Still more sought haven with their relatives in small towns nearer home, some going no farther than Buntyn or Germantown, others to Milan, Jackson, Humboldt, or Somerville. The well-to-do escaped to the watering places, many of which advertised in The Appeal that they were extending their seasons to accommodate refugees.

Medical authorities were unanimous in urging that all who could should leave the city and this time The Appeal added its own voice to the warnings: "Let all who can go quickly so that there will be as little food as possible for the pestilence to feed upon." Some 5,000 too poor to leave the city otherwise filled seven refugee camps furnished with tents sent by the War Department. When the exodus was complete more than 30,000 of the city's 56,000 people had gone. Of those left in the city some 15,000 were black and 7,000 were white.

Few heroes of the epidemics deserved more to be remembered by Memphis than Robert Catron, Associated Press correspondent who dedicated himself to keeping the Memphis presses rolling. He worked on all three daily newspapers at once to fill in for his stricken friends, snatching odd hours to make the rounds of their homes and nurse them. He died of the fever Sept. 24, but not before his graphic dispatches, tapped out twice a day over the Western Union wire, electrified the nation from the front pages of nearly every major newspaper.

The whole Mississippi Valley from Mobile to Cincinnati was scourged, few towns along the waterways or railroads escaping. But it was Memphis, with a daily death toll often greater than those of all the other places combined, that became the focal point of the nation's sympathy and of its criticism.

Speaking in Minneapolis on Sept. 10, President Rutherford B. Hayes held up a Bible given him by an ex-Union soldier. "It was the only thing he had in the world," said the president. "He asked me to sell it for some suffering Confederate soldier in the South." Bids went up from the crowd and someone bought the tattered Bible for $100.

Mayor N. L. Angier of Atlanta announced that "Mr. DeGive has tendered his opera hall, including free gas, for a public meeting to devise means for speedy relief of the suffering valley." Later at a benefit performance," Mary E. Brady, distinguished Georgia poetess, read a poem composed for the occasion and Rabbi Brown delivered his well-known lecture on the "Crucifixion of the Jews," the Atlanta Constitution reported. When Bishop Quintard of the Episcopal Diocese of Tennessee spoke before the New York Medical Society of the suffering in Memphis, several thousand dollars was raised on the spot, many of the doctors giving blank checks.

Employes of the Singer Sewing Machine Co. in Elizabeth, N.J., contributed $4,000 to Memphis and in New York City alone $266,167 was raised in a single week. Few towns in the United States were without some organized effort to send money and supplies to the South and many contributed to the project organized in St. Louis which raised $25,000 to equip a "National Relief Boat," to make its way down the river dispensing medical aid and food wherever the plague had struck.

"Dear Brothers," wrote Rev. R. N. Countee, a Memphis Negro minister, to his clerical colleagues in Atlanta, "Our distress beggars description. We are often at the graveyard until 10 at night burying the dead. The white people are doing all they can, but we are compelled to call on our brothers. I have 300 of my flock of 2,907 left. For God's sake help us."

A volunteer nurse from Boston telegraphed her friends back home: "They need food more than money here. Send chickens, eggs, butter and champagne. Send by express. Freight is suspended."

The enormity of the epidemic swept away in a week much of the hostility which had festered for a generation between the North and the South, moving the Atlanta Constitution to observe: "It needed affliction and distress to arouse the nobler sentiment of either side, to dispel harsh bitterness. Brotherly sympathy in these dire days has made us one."

Even greater than this was the inspiration the world found in the selfless martyrdom of those who went to tend the Memphis sick and now rested near them under the freshly dug earth of Elmwood and Calvary cemeteries. "Those poor Sisters lying dead in Memphis are an all-sufficient refutation of our pessimism about human nature," confessed The New York Times. "It is strange that so much dying should prove to us that the world is worth living in."

But the world saw more than heroic suffering in the Memphis ordeal. "We had hoped from the bottom of our hearts that Memphis might be spared this dreadful visitation," said the Brownsville (Tenn.) Democrat, "The Appeal and other papers begged and beseeched the city government to maintain a sanitary force that would prove efficacious. Now the cry of the widow, the fatherless and the starving multitude who have *gone they know not where will be heard where it ought to rankle till it brings remorse."*

The Aug. 29, 1878, issue of The Nation, a prestigious weekly journal, commented: "Memphis has unfortunate weather and bad sanitary conditions. Doubtless when its inhabitants return after the first frost forgetfulness will settle again over that community and the popular municipal economy in sanitary measures along with negligence and indolence will again conspire with an unfavorable season to kindle anew the blaze of pestilence."

The New York Times showed more insight by seeing the problem in its regional dimensions: "There is an all-abounding luxury of filth in the South such as Northerners can hardly imagine. No pretense is made at underground drainage. However, they live surrounded by luxuriant roses and magnolias the scent of which mingle with odors of the aggregate abominations of generations, stagnant pools festering in the sunshine, reeking bayous, pigs and black beetles. The penalty for sanitary neglect must be paid and a good installment is being demanded by an outraged Nature this summer."

Outraged Nature was appeased with no less than Memphis' all. In pathetic contrast to the epidemic of 1873, the city's vital functions lurched to a dead stop. Churches suspended services, businesses and banks closed, many forever, their owners finally convinced that Memphis would always be a city of disease and death.

The busy Memphis waterfront was deserted and the great river highway lay empty except for an occasional passing skiff like the one from which a traveler wrote: "Memphis is dead, it seems. I saw no life on its streets, no motion, no mules or Negroes about, not even a dog. Not a puff of smoke did I see rising from a chimney."

The midday clang and clatter of the streets vanished into an eerie silence broken only by the echoing rumble of deathwagons or the frantic footsteps of those looking for doctors and nurses. Near countless houses lay small heaps of smoldering ashes — a little while before the bedclothes of some sufferer — now a mute sign that another battle had been lost.

As in 1873, the city officials were among the first to flee. The Citizens' Relief Committee was reorganized to run the city and coordinate relief for the poor, while the Howard Association directed medical activities. Ministers, priests, nuns and the Hebrew Hospital Association again came for-

'Memphis Is Dead'

Nurses, Nuns Staked Lives, Often Lost

ward to sacrifice themselves to the work of bringing comfort to the dying. Twelve Catholic nuns died as did all but two of the city's eleven Catholic priests.

A priest sent from Jackson, Tenn., to carry on for his fallen brothers wrote anxiously to his bishop: "Two are left and lie ill. I fear when I die there will be no priest to bury me." Four Episcopalian nuns and ten Protestant ministers died, many of them having first buried their own families. One of the handful of wealthy citizens who chose a hero's role was N. D. Menken, a Jew who wrote to a friend at the height of the plague "I saw that so

Martyr

N.D. Menken: 'So much help was needed I could not leave.'

few would stay to help and so much help was needed. I could not leave." Menken died Sept. 26.

The death toll mounted to more than 100 a day, far outstripping the resources of the Howard Association and the city's undertakers. Dr. Mitchell, directing the Howard medical corps, wired the medical societies of the South: "I need 10 more doctors, urgently. Pay $10 a day and a buggy. Also nurses, $4 a day and board." Many of the 32 doctors who had opposed the summer quarantine had taken their families and fled. Among those who came from other cities were well-known specialists in the treatment of yellow fever.

Nineteen died, and at length Dr. Mitchell sent out another bulletin: "Please do not come here unless you have had the fever. I have buried some of the best medical talent in the nation and cannot stand to bury any more." Deaths of Drs. Avent and Erskine were noted prominently around the country as both were widely known public health experts. Of Erskine The New York Times said: "A more noble man or gallant one never lived. Proud of his profession and devoted to it, he responded to every call giving freely of his advice and services. He built for himself an enduring place in many hearts."

Heroes stepped forth from every walk of life. Annie Cook, who had turned her elegant bagnio into a hospital, received a letter shortly before she died from "the Christian women" of Louisville, Ky., her former home. "Dear Madam, We are inspired by your goodness and charity..." Former Mayor Johnson, so criticized by The Appeal for his "sanitary neglect," stayed to serve as supervisor of the Howard nurses and Col. C. B. Galloway of the Peabody Hotel kept its doors opened even though the staff dwindled to two Negro servants and he himself lay ill with the fever.

Only six of the city's policemen turned in their badges although the force had not been paid for several weeks. For the first time Memphis had Negro policemen, recruited to fill the places left by the fever. These men "earned the respect and gratitude of all in faithfully carrying out their duties," said the Evening Ledger.

No one gave more of himself than J. M. Keating. He worked daily as an officer of the Citizens' Relief Committee and kept The Appeal in print, saving the newspaper's proud record of continuous publication, at enormous sacrifice. All but 2 of the staff of 75 left or were stricken. "On more than one occasion Col. Keating did all the editorial work, the reporter's work, set the type and made up the forms," reported the Atlanta Constitution. "It is the moral heroism of such men that evokes our greatest admiration."

The plague raged on, its fury leaving even survivors of 1873 stunned with disbelief. Scenes of horror played on relentlessly. Coffins were piled up three deep in the cemeteries as burials fell behind the death rate. Parents died in agony before the eyes of their children and in some sickrooms whole families lay dying, unable to minister to one another. Parents, finding no one to help them took small coffins to the cemetery and made their children's graves with their own hands. Men and women turned to drugs and drink to blot out what they had seen. Others, like a minister's wife in Holly Springs, Miss., "just sat down and cried, it was so overwhelming."

Dr. William T. Ramsey of Washington, who came to Memphis with a corps of Howard Association nurses, called Memphis "a city of horrors."

"The poor whites and Negroes from 150 miles around Memphis have flocked into the city looking for food," he wrote one of his friends. "Hundreds of them prowl around the streets with hardly any clothes on . . .They break into the vacant houses whenever they want.

"The stench of Memphis sickened me before I got within 5 miles of the city. No words can describe the filth I saw, the rotten wooden pavements, the dead animals, putrifying human bodies and the half-buried dead combining to make the atmosphere something fearful. I took 30 grains of quinine and 120 drops of tincture of iron every day and wore a thick veil soaked with carbolic acid over my face.

"Many of the nurses, both men and women, smoke cigars constantly while attending patients to ward off the stench. In the Peabody Hotel where I stayed, pans of sulphur were kept burning in the halls.

Refugees from Memphis had carried the dread disease as far away as New York City. Tennessee towns along the railroad lines were especially hard hit for having opened their arms to the Memphis exodus. Somerville had advertised in The Appeal when the fever broke out:

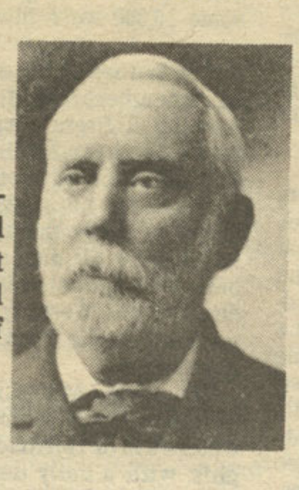
"Escape the mosquitoes and the summer heat of the city. The Memphis & Charleston Railroad has lowered its rates to Somerville."

By Sept. 1, Somerville and most other towns had instituted quarantines against anyone coming from Memphis and were enforcing them at gunpoint. Even bundles of The Appeal were not allowed to be thrown off the trains passing through Humboldt, and Union City escaped the fever by paying two men who had gone to nurse sick friends in Memphis $10 a day not to come back.

The callous and cowardly, swallowed into history's oblivion, probably outnumbered both the heroes and the sufferers. "Hog Williams, who owns several blocks of buildings in Memphis, is dead," reported the Atlanta Constitution. "Even in his last hours he refused to give anything for the fever victims. He even asked for supplies for himself. There are many rich men like this in Memphis. It is not necessary to name them for their tenants know who they are. They have not been conspicuous in contribution to save the poor from

Held On

Col. C.B. Galloway, himself ill with fever, kept Peabody Hotel open with staff of two.



starvation. There is no need to mince words: Memphis has another curse other than the plague — the curse of her rich men, mean, selfish and penurious. None in the world are more so."

Some of the not-rich acted selfishly, too. Drugstores and the few groceries that remained opened jumped their prices and carpenters doubled the price of coffins. Thieves helped themselves to merchandise in closed businesses and stripped bare many of the homes from which occupants had fled in haste. The Appeal complained that many of those who came to Memphis to be Howard Association nurses "are no more than prostitutes and pickpockets."

The enormity of suffering throughout the valley riveted the nation's attention on the yellow fever problem. Congress established the Yellow Fever Commission to survey all the stricken communities and devise a plan to eradicate the disease. Dr. Jerome Cochrane, director of the commission, came to Memphis to begin his work on Nov. 1, three days after the Howard Medical Corps had declared the epidemic officially over. All but 5,000 of the refugees returned to the city and on Dec. 31, a mass meeting was held at the Greenlaw Opera House where the plan to surrender the city's charter was quickly adopted. There was no longer any choice if Memphis was to survive.

The Tennessee legislature abolished the corporate charter of Memphis on Jan. 31, 1879, appointing Dr. D. T. Porter mayor of the Taxing District of Memphis. The work of rebuilding the city began in earnest, and this time there was no mindless interference from "a bunch of damned thieves."

Workers with the Yellow Fever Commission and the American Public Health Association (APHA) surveyed every inch of Memphis for four months and found 7,202 buildings, 4,744 cisterns, 124 stagnant pools, 5,914 privies — 3,617 of them "foul" — and 398 indoor toilets.

The actual work of beginning a sewer system and waterworks was stymied for many months though, while lawsuits by Memphis creditors over the legality of the taxing district were argued in the courts. The delay was a tragic one, for yellow fever struck again in July, 1879. This time quarantines were set up quickly and rigidly enforced with methods introduced the APHA. Yellow flags were flown from every house where someone lay sick and no persons or freight were allowed to enter the city.

Amazingly, some of the Memphis business community still did not see the wisdom of cooperating. Angered when the quarantine was extended to cotton, they challenged the board of health's authority in the courts, and lost. The case marked the end of the old order and the beginning of a tradition of strong support for public health by business leaders.

The mortality of the 1879 epidemic was held down to 500 and as soon as it was over the great campaign began to change the destiny of Memphis. In November, 1879, George Waring of Newport, R.I., an officer with the National Board of Health, was appointed to survey Memphis for a sewer system. He devised a plan using a method so advanced it had never been tried on a large scale.

Several years later in an address to the Scientific Institute of Great Britain in London, Waring said: "Many a hard battle had to be fought against ignorance, timidity and stupidity before the order for construction was finally given, but the situation at Memphis offered a rare opportunity for sanitary work. The absolute need for improvement was obvious and the community had a full realization of the fact that it was 'neck or nothing' with their city.

The result has been that a community overtaxed, plundered and indeed driven by a former corrupt government to attempted self-destruction, has accepted advice more radical probably than was ever seriously before given, has raised the money for the required work and has put its house into more nearly perfect order than any other city in the country."

Some 200 citizens gathered at Union and Wellington on Jan. 21, 1880, to see Dr. Porter break ground for the sewer system and by June, 1880, there were 1,200 sewer connections. That year the Memphis death rate dropped an astounding 20 per cent to 28 per 1,000 and delegations from New Orleans, Chattanooga and other cities came to inspect the Waring system. The public health momentum grew as the city basked in the new respect it began to command.

Soon, once-repulsive Memphis, was a model city. The 1880s saw the establishment of the artesian well system and a futuristic garbage burning process both of which attracted admiring public health officials from as far away as Australia and Brazil. Elaborate quarantines became a matter of course when yellow fever was reported in the West Indies and few complained of the inconvenience to trade as the years rolled by and yellow fever did not return. Only a mild outbreak in 1897 marred the city's record of complete victory over the dread disease.

"Other communities have been benefited by the experience of Memphis and its example has afforded an impetus to city sanitation heretofore unknown," said Memphis board of health president G. B. Thornton in an address to the Tennessee State Board of Health in 1880. It seems that great and permanent good to Memphis will be the result of its reverses. Some of the most lasting lessons are taught by the saddest experiences."

Rare Chance

George Waring: 'Situation offered rare opportunity for sanitary work'